followed the same route at the end of July 1928 but found *scipio* in a very restricted locality. Another observer, Gen. C. van Straubenzee, attacked the summit by the second route, starting from the " Hermitage," but on four occasions between 16th and 29th July 1936 he failed to find any *scipio*. I was equally unlucky. Of course, 10th August was a late date, but the only *Erebia* seen, *E. ligea*, was only just emerging. To my surprise I took a good number of *S.* (*M.*) (*japygia*) *cleanthe* in good condition, a late date for this insect.

Near " The Hermitage " a fine race of *Parnassius apollo* was flying, the largest I have ever seen—88 mm.—which should, I imagine, be referred to the race *provincialis*, Kheil. The specimens of *S.* (*M.*) *galathea* were all f. *procida*, some with yellowish ground colour on the upper surface. One my son took in 1936 at Cruis was certainly ab. *flava*, Tutt; one wonders whether this yellow coloration tends to disappear after emergence similar to *P. napi* f. *citronea*, which soon loses its yellow colour if kept alive in captivity.

On 9th August we walked up the gorge mentioned by Mr Haig-Thomas, and on entering it after a thunderstorm two ab. *leucomelas* were taken out of three *galathea* seen; curiously I saw no more considering the large number of *procida* flying, till my son caught one in cop. She was brought home, living for 33 days, and laid about 70 ova. I doubt whether the minute larvae will survive the winter in hibernation.

M. didyma. Two specimens were taken with the yellowish white band on the underside of the lower wings much increased in size. This seems to be the variety described by Mr Wheeler in *Butterflies of Switzerland*.

Adopaea lineola. A very small specimen only 20 mm. in expanse was taken, and also one *L. sinapis* ab. *erysimi*, and a single *P. egea* the only one seen.

S. cordula, which appears earlier than *S. actaea*, was flying at 5000 ft., whereas *actaea* had replaced it at Cruis, which is about 3000 ft. lower.

Seitz' nomenclature is followed in this paper except in the case of some of the Erebias when Warren's *Monograph of the Genus Erebia* has been quoted.

THE REPUTED APTEROUSNESS OF BIORRHIZA PALLIDA, OLIV. (CYNIPIDAE).

By H. J. Burkill, M.A., F.R.G.S.

Dr Malcolm Burr in his fascinating book, *The Insect Legion*, refers to the wingless condition of the females of this species. This statement naturally interests me as I have several times bred out the flies in the last forty years, and my experience is contrary to such an opinion.

Dr Adler in his work on the species (*Alternating Generations: A Study of Oak Galls and Gall Flies*. Translated by Dr Straton, Clarendon Press, Oxford, 1894) says, p. 76, " Since *Biorrhiza aptera*, Bosc., is wingless, it need cause no surprise that the *Teras terminalis*, Fab.

(*B. pallida*), generation is also deficient in wings, for we must remember that although the males are always provided with perfect wings, yet the females are either wingless or have short rudimentary wings only." This statement was apparently based on his own observations made in 1876 and 1878. On p. 74 he says "the females are wingless or with rudimentary wings only." p. 75 he says "the two generations are so remarkably alike," yet he gives 4 to 7 mm. as the length of *B. aptera*, and 3 mm. as the length of *B. pallida*. My experience is that the former are much darker in colour as well as much larger, and therefore I have failed to notice any remarkable resemblance. The two generations are different, especially in view of what I have to say below.

Cameron in *British Phytophagous Hymenoptera*, Vol. IV (Ray Society, 1893) says on p. 117:—"SEXUAL FORM—The female agrees very closely with the agamic, but is usually winged." Later on he says, "It is noteworthy that the sexual female may have the wings rudimentary or wanting." He gives the length of the agamic as 3.5 to 7.5 mm. and that of the sexual at 3 mm.

On p. 119, he says "The male is always winged, but the female not infrequently has the wings rudimentary or entirely obsolete." He adds that the gall is commonly distributed in Europe.

I would like to ask those writers, who believe that winglessness is the normal condition, if the species could be widely spread if both the alternating generations were wingless. The male in the sexual generation cannot carry the female to a fresh host plant, and the larvae have no power of locomotion. If the females were wingless the species could not spread far and would be limited in its range instead of being "commonly distributed." This was pointed out in *The Entomologist*, October 1932, p. 233.

Thus it seems that if there is a general impression that apterousness is the usual condition for the females of *B. pallida* it is based on a statement made by Dr Adler on two experiments in 1876 and 1878 in which he obtained abnormal specimens. Either his galls were kept under conditions which did not produce normal results, or they were galls induced by a female *B. aptera* with a tendency to breed inferior progeny. I would rule out any suggestion of a local race as it would not be able to spread to fresh trees.

Cameron states that wingless females may occur. He does not say that apterousness is the normal condition.

It would be interesting to hear the opinions of other observers, not writers who have just taken Dr Adler's statement without checking it, but who have bred out the insects for themselves.

I have carried out observations for many years and results have been published from time to time in the *London Naturalist* (London Natural History Society, Plant Gall Records). There I see the following entries:

1932. "For the first time I bred wingless females of *B. pallida*, Oliv., as one gall provided me with 2 of these out of 30 females and 21 males. In other years all the specimens have been winged."

1936. "Flies from 3 galls: 31 males and 25 females, all of which were winged."

1937. "*B. pallida* was once more bred out in some numbers and all the imagines were fully winged."